

## WHAT IS CLAIMED IS:

1. An asymmetric chiral labeled glycerol including at least one chiral atom, from one to two  $^{13}\text{C}$  atoms and from zero to four deuterium atoms bonded directly to a carbon atom.
2. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (2S)  $[1,2-^{13}\text{C}_2]$ glycerol and (2R)  $[1,2-^{13}\text{C}_2]$ glycerol.
3. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (2S)  $[1-^{13}\text{C}, 2-^2\text{H}]$ glycerol and (2R)  $[1-^{13}\text{C}, 2-^2\text{H}]$ glycerol.
4. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (2S, 3S)  $[1,2-^{13}\text{C}_2, 3-^2\text{H}]$ glycerol, (2R, 3R)  $[1,2-^{13}\text{C}_2, 3-^2\text{H}]$ glycerol, (2S, 3R)  $[1,2-^{13}\text{C}_2, 3-^2\text{H}]$ glycerol and (2R, 3S)  $[1,2-^{13}\text{C}_2, 3-^2\text{H}]$ glycerol.
5. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (2S)  $[1,2-^{13}\text{C}_2, 3-^2\text{H}]$ glycerol and (2R)  $[1,2-^{13}\text{C}_2, 3-^2\text{H}]$ glycerol.
6. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (2S)  $[1,2-^{13}\text{C}_2, 3-^2\text{H}_2]$ glycerol and (2R)  $[1,2-^{13}\text{C}_2, 3-^2\text{H}_2]$ glycerol.
7. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (2S)  $[1-^2\text{H}, 2-^{13}\text{C}]$ glycerol and (2R)  $[1-^2\text{H}, 2-^{13}\text{C}]$ glycerol.
8. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (2S)  $[1-^2\text{H}_2, 2-^{13}\text{C}]$ glycerol and (2R)  $[1-^2\text{H}_2, 2-^{13}\text{C}]$ glycerol.
9. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (1S, 2S)  $[1-^{13}\text{C}, 1-^2\text{H}]$ glycerol, (1R, 2R)  $[1-^{13}\text{C}, 1-^2\text{H}]$ glycerol, (1S, 2R)  $[1-^{13}\text{C}, 1-^2\text{H}]$ glycerol and (1R, 2S)  $[1-^{13}\text{C}, 1-^2\text{H}]$ glycerol.

10. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (1R, 2R) [1-<sup>13</sup>C, 1,2-<sup>2</sup>H<sub>2</sub>]glycerol, (1S, 2S) [1-<sup>13</sup>C, 1,2-<sup>2</sup>H<sub>2</sub>]glycerol, (1S, 2R) [1-<sup>13</sup>C, 1,2-<sup>2</sup>H<sub>2</sub>]glycerol and (1R, 2S) [1-<sup>13</sup>C, 1,2-<sup>2</sup>H<sub>2</sub>]glycerol.

11. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (1R, 2R) [1-<sup>13</sup>C, 1,3-<sup>2</sup>H<sub>3</sub>]glycerol, (1S, 2S) [1-<sup>13</sup>C, 1,3-<sup>2</sup>H<sub>3</sub>]glycerol, (1S, 2R) [1-<sup>13</sup>C, 1,3-<sup>2</sup>H<sub>3</sub>]glycerol and (1R, 2S) [1-<sup>13</sup>C, 1,3-<sup>2</sup>H<sub>3</sub>]glycerol.

12. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (1R, 2R) [1-<sup>13</sup>C, 1,2,3-<sup>2</sup>H<sub>4</sub>]glycerol, (1S, 2S) [1-<sup>13</sup>C, 1,2,3-<sup>2</sup>H<sub>4</sub>]glycerol, (1S, 2R) [1-<sup>13</sup>C, 1,2,3-<sup>2</sup>H<sub>4</sub>]glycerol and (1R, 2S) [1-<sup>13</sup>C, 1,2,3-<sup>2</sup>H<sub>4</sub>]glycerol.

13. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (1R, 2R) [1,2-<sup>13</sup>C<sub>2</sub>, 1-<sup>2</sup>H]glycerol, (1S, 2S) [1,2-<sup>13</sup>C<sub>2</sub>, 1-<sup>2</sup>H]glycerol, (1S, 2R) [1,2-<sup>13</sup>C<sub>2</sub>, 1-<sup>2</sup>H]glycerol and (1R, 2S) [1,2-<sup>13</sup>C<sub>2</sub>, 1-<sup>2</sup>H]glycerol.

14. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (1R, 2R) [1,2-<sup>13</sup>C<sub>2</sub>, 1,2-<sup>2</sup>H<sub>2</sub>]glycerol, (1S, 2S) [1,2-<sup>13</sup>C<sub>2</sub>, 1,2-<sup>2</sup>H<sub>2</sub>]glycerol, (1S, 2R) [1,2-<sup>13</sup>C<sub>2</sub>, 1,2-<sup>2</sup>H<sub>2</sub>]glycerol and (1R, 2S) [1,2-<sup>13</sup>C<sub>2</sub>, 1,2-<sup>2</sup>H<sub>2</sub>]glycerol.

15. The asymmetric chiral labeled glycerol of claim 1 wherein said glycerol is selected from the group consisting of (1R, 2R) [1,2-<sup>13</sup>C<sub>2</sub>, 1,3-<sup>2</sup>H<sub>3</sub>]glycerol, (1S, 2S) [1,2-<sup>13</sup>C<sub>2</sub>, 1,3-<sup>2</sup>H<sub>3</sub>]glycerol, (1S, 2R) [1,2-<sup>13</sup>C<sub>2</sub>, 1,3-<sup>2</sup>H<sub>3</sub>]glycerol and (1R, 2S) [1,2-<sup>13</sup>C<sub>2</sub>, 1,3-<sup>2</sup>H<sub>3</sub>]glycerol.

16. The asymmetric chiral labeled glycerol of claim 2 wherein said glycerol is selected from the group consisting of (1R, 2R) [1,2-<sup>13</sup>C<sub>2</sub>, 1,2,3-<sup>2</sup>H<sub>4</sub>]glycerol, (1S, 2S) [1,2-<sup>13</sup>C<sub>2</sub>, 1,2,3-<sup>2</sup>H<sub>4</sub>]glycerol, (1S, 2R) [1,2-<sup>13</sup>C<sub>2</sub>, 1,2,3-<sup>2</sup>H<sub>4</sub>]glycerol and (1R, 2S) [1,2-<sup>13</sup>C<sub>2</sub>, 1,2,3-<sup>2</sup>H<sub>4</sub>]glycerol.

17. The asymmetric chiral labeled glycerol of claim 2 wherein said compound includes one or more deuterium atoms.